STATE BUILDING CODE COUNCIL

Log No. <u>14-E17</u>

1. State B	uilding Co	de to be Amended:				
	Internation	nal Building Code				
	ICC ANS	I A117.1 Accessibility Code	☐ International Mechanical Code			
	Internation	nal Existing Building Code	☐ International Fuel Gas Code			
	Internation	nal Residential Code	☐ NFPA 54 National Fuel Gas Code			
	Internation	nal Fire Code	☐ NFPA 58 Liquefied Petroleum Gas Code			
	Uniform F	Plumbing Code	☐ Wildland Urban Interface Code			
	ction(s): 12 WSEC (Commercial various see below				
Tit No:		l vs Residential vs Other than Group	R vs Group R			
-	ent Name	(Specific local government, organiz Eric Vander Mey, PE, Rushing Co	•			
Tit	le:	Principal				
Da	te:	2/28/2014				
3. Designa	ated Conta	act Person:				
Na	me:	Eric Vander Mey				
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4. Proposed Code Amendment. Reproduce the section to be amended by underlining all added language, striking through all deleted language. Insert <u>new</u> sections in the appropriate place in the code in order to continue the established numbering system of the code. If more than one section is proposed for amendment or more than one page is needed for reproducing the affected section of the code additional pages may be attached. (Examples on the SBCC <u>website</u>)

Code(s) 2012 WSEC Section(s) Various, see below

Enforceable code language must be used; see an example <u>by clicking here</u>. Amend section to read as follows:

C101.4.4 Change in occupancy or use. Spaces undergoing a change in occupancy from an F, S or U occupancy to an occupancy other than F, S or U shall comply with this code. Any space that is converted to a residential Group R dwelling unit or portion thereof, from another use or occupancy shall comply with this code. Where the use in a space changes from one use in Table C405.5.2(1) or (2) to another use in Table C405.5.2(1) or (2), the installed lighting wattage shall comply with Section C405.5.

Chapter 2 Definitions

ENTRANCE DOOR. Fenestration products used for ingress, egress and access in nonresidential commercial buildings including, but not limited to, exterior entrances that utilize latching hardware and automatic closers and contain over 50 percent glass specifically designed to withstand heavy use and possibly abuse.

STOREFRONT. A nonresidential commercial system of doors and windows mulled as a composite fenestration structure that has been designed to resist heavy use. Storefront systems include, but are not limited to, exterior fenestration systems that span from the floor level or above to the ceiling of the same story on commercial buildings, with or without mulled windows and doors.

C402.1.3.1 General. Buildings or structures whose design heat loss rate (UAp) and solar heat gain coefficient rate (SHGC • Ap) are less than or equal to the target heat loss rate (UAt) and solar heat gain coefficient rate (SHGC • At) shall be considered in compliance with this section. The stated U-factor, F-factor or allowable area of any component assembly, listed in Table C402.1.2 and Table C402.3, such as roof/ceiling, opaque wall, opaque door, fenestration, floor over conditioned space, slab-on-grade floor, radiant floor or opaque floor may be increased and the U-factor or F-factor for other components decreased, provided that the total heat gain or loss for the entire building envelope does not exceed the total resulting from compliance to the U-factors, F-factors or allowable areas specified in this section. Compliance shall be calculated in total for the building envelope for nonresidential other than Group R spaces and for residential Group R spaces.

C403.2.6 Energy recovery.

C403.2.6.1 Energy recovery ventilation systems. Any system with minimum outside air requirements at design conditions greater than 5,000 CFM or any system required by Table C403.2.6 shall include an energy recovery system. The energy recovery system shall have the capability to provide a change in the enthalpy of the outdoor air supply of not less than 50 percent of the difference between the outdoor air and return air enthalpies, at design conditions. Where an air economizer is required, the energy recovery system shall include a bypass or controls which permit operation of the economizer as required by Section C403.4. Where a single room or pace is supplied by multiple units, the aggregate ventilation (cfm) of those units shall be used in applying this requirement.

Exception: An energy recovery ventilation system shall not be required in any of the following conditions:

- 1. Where energy recovery systems are prohibited by the International Mechanical Code.
- 2. Laboratory fume hood systems that include at least one of the following features:

- 2.1. Variable-air-volume hood exhaust and room supply systems capable of reducing exhaust and makeup air volume to 50 percent or less of design values.
- 2.2. Direct makeup (auxiliary) air supply equal to at least 75 percent of the exhaust rate, heated no warmer than 2°F (1.1°C) above room setpoint, cooled to no cooler than 3°F (1.7°C) below room setpoint, no humidification added, and no simultaneous heating and cooling used for dehumidification control.
- 3. Systems serving spaces that are heated to less than 60°F (15.5°C) and are not cooled.
- 4. Where more than 60 percent of the outdoor heating energy is provided from site-recovered or site solar energy.
- 5. Heating energy recovery in Climate Zones 1 and 2.
- 6. Cooling energy recovery in Climate Zones 3C, 4C, 5B, 5C, 6B, 7 and 8.
- 7. Systems requiring dehumidification that employ energy recovery in series with the cooling coil.
- 8. Multi-zone systems with cold deck supply air and zone reheat where the minimum outdoor air is less than 70 percent of total supply air.
- 9. Systems serving residential Group R dwelling or sleeping units multifamily spaces where the largest source of air exhausted at a single location at the building exterior is less than 25 percent of the design outdoor air flow rate.

C403.3.1 Economizers. Each cooling system that has a fan shall include an air economizer meeting the requirements of Sections C403.3.1.1 through C403.3.1.1.4.

Exception: Economizers are not required for the systems listed below:

- 1. Qualifying small equipment: This exception shall not be used for unitary cooling equipment installed outdoors or in a mechanical room adjacent to the outdoors. This exception is allowed to be used for other cooling units and split systems with a total cooling capacity rated in accordance with Section C403.2.3 of less than 33,000 Btu/h (hereafter referred to as qualifying small systems) provided that these are high-efficiency cooling equipment with SEER and EER values more than 15 percent higher than minimum efficiencies listed in Tables C403.2.3 (1) through (3), in the appropriate size category, using the same test procedures. Equipment shall be listed in the appropriate certification program to qualify for this exception. The total capacity of all qualifying small equipment without economizers shall not exceed 72,000 Btu/h per building, or 5 percent of its air economizer capacity, whichever is greater. That portion of the equipment serving residential Group R occupancies is not included in determining the total capacity of all units without economizers in a building. Redundant units are not counted in the capacity limitations. This exception shall not be used for the shell-and-core permit or for the initial tenant improvement or for Total Building Performance.
- 2. Systems with dehumidification that affect other systems so as to increase the overall building energy consumption. New humidification equipment shall comply with Section C403.2.3.4.
- 3. For residential Group R occupancies, cooling units installed outdoors or in a mechanical room adjacent to outdoors with a total cooling capacity less than 20,000 Btu/h and other cooling units with a total cooling capacity less than 54,000 Btu/h provided that these are high-efficiency cooling equipment with IEER, SEER, and EER values more than 15 percent higher than minimum efficiencies listed in Tables C403.2.3 (1) through (10), in the appropriate size category, using the same test procedures. Equipment shall be listed in the appropriate certification program to qualify for this exception. For split systems and VRF systems, compliance is based on the cooling capacity of individual fan coil units.

C404.9 Domestic hot water meters. Each individual dwelling unit in a Group R-2 multi-family residential occupancy with central service shall be provided with a domestic hot water meter to allow for domestic hot water billing based on actual domestic hot water usage.

C407.5.2.3 Multifamily residential Group R buildings. Residential Group R spaces shall be modeled using one thermal block per space except that those facing the same orientations are permitted to be combined into one thermal block. Corner units and units with roof or floor loads shall only be combined with units sharing these features.

TABLE C407.5.1(2) HVAC SYSTEMS MAP

CONDENSER	HEATING SYSTEM	STANDARD REFERENCE DESIGN HVC SYSTEM TYPE ^C			
COOLING SOURCE ^a	CLASSIFICATION	Single-zone Residential <u>Group</u> R System	Single-zone Nonresidential Other than Group R System	All Other	
	Electric resistance	System 5	System 5	System 1	
Water/ground	Heat pump	System 6	System 6	System 6	
	Fossil fuel	System 7	System 7	System 2	
	Electric resistance	System 8	System 9	System 3	
Air/none	Heat pump	System 8	System 9	System 3	
	Fossil fuel	System 10	System 11	System 4	

- a. Select "water/ground" if the proposed design system condenser is water or evaporatively cooled; select "air/none" if the condenser is air cooled. Closed-circuit dry coolers shall be considered air cooled. Systems utilizing district cooling shall be treated as if the condenser water type were "water." If no mechanical cooling is specified or the mechanical cooling system in the proposed design does not require heat rejection, the system shall be treated as if the condenser water type were "Air." For proposed designs with ground-source or groundwater-source heat pumps, the standard reference design HVAC system shall be water-source heat pump (System 6).
- b. Select the path that corresponds to the proposed design heat source: electric resistance, heat pump (including air source and water source), or fuel fired. Systems utilizing district heating (steam or hot water) and systems with no heating capability shall be treated as if the heating system type were "fossil fuel." For systems with mixed fuel heating sources, the system or systems that use the secondary heating source type (the one with the smallest total installed output capacity for the spaces served by the system) shall be modeled identically in the standard reference design and the primary heating source type shall be used to determine *standard* reference design HVAC system type.
- c. Select the standard reference design HVAC system category: The system under "single-zone residential-Group R system" shall be selected if the HVAC system in the proposed design is a single-zone system and serves a residential space. The system under "single-zone nonresidential other than Group R system" shall be selected if the HVAC system in the proposed design is a single-zone system and serves other than residential-Group R spaces. The system under "all other" shall be selected for all other cases.
- 5. Briefly explain your proposed amendment, including the purpose, benefits and problems addressed. Specifically note any impacts or benefits to business, and specify construction types, industries and services that would be affected. Finally, please note any potential impact on enforcement such as special reporting requirements or additional inspections required.

Amendment is needed to clarify the difference between a space that is a residential space and a commercial Group R or commercial other than Group R space.

This is required to correlate with the IECC definition for residential and the Building Code definitions in Chapter 3:

RESIDENTIAL BUILDING. For this code, includes detached one- and two-family dwellings and multiple single-family dwellings (townhouses) as well as Group R-2, R-3 and R-4 buildings three stories or less in height above grade plane.

Also removes references to multifamily to correlate with RCW 19.27 definition:

19.27.015 Definitions.

As used in this chapter:

(3) "Multifamily residential building" means common wall residential buildings that consist of four or fewer units, that do not exceed two stories in height, that are less than five thousand square feet in area, and that have a one-hour fire-resistive occupancy separation between units; and

6.	Specify what criteria this proposal meets. You may select more than one. The amendment is needed to address a critical life/safety need. The amendment is needed to address a specific state policy or statute. The amendment is needed for consistency with state or federal regulations. The amendment is needed to address a unique character of the state. The amendment corrects errors and omissions.
7.	Is there an economic impact: ☐ Yes ☐ No Explain: Amendment is needed to clarify that the distinction between residential, commercial other than Group R, and commercial Group R.

If there is an economic impact, use the Table below to estimate the costs and savings of the proposal on construction practices, users and/or the public, the enforcement community, and operation and maintenance. If preferred, you may submit an alternate cost benefit analysis.

	Construction ¹		Enforcement ²		Operation	Operations & Maintenance ³	
Building Type	Costs	Benefits ⁴	Costs	Benefits ⁴	Costs	Benefits ⁴	
Residential	N/A	N/A	N/A	N/A	N/A	N/A	
Single family	N/A	N/A	N/A	N/A	N/A	N/A	
Multi-family	N/A	N/A	N/A	N/A	N/A	N/A	
Commercial/Retail	N/A	N/A	N/A	N/A	N/A	N/A	
Industrial	N/A	N/A	N/A	N/A	N/A	N/A	
Institutional	N/A	N/A	N/A	N/A	N/A	N/A	

Please send your completed proposal to: sbcc@ga.wa.gov

All questions must be answered to be considered complete. Incomplete proposals will not be accepted.

¹ \$ / square foot of floor area or other cost. Attach data. **Construction** costs are costs prior to occupancy, and include both design and direct construction costs that impact the total cost of the construction to the owner/consumer.

² Cost per project plan. Attach data. Enforcement costs include governmental review of plans, field inspection, and other action required for enforcement.

³ Cost to building owner/tenants over the life of the project.

⁴ Measurable benefit.